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IDEA 2801-66
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3 January 1966

MEMORANDUM FOR: Chief, Programs Staff, OSA

SUBJECT: IDEALIST Operational Summary
and Status (December 1965)

REFERENCE: Memorandum from D/SA to D/PA/OSA
and D/TMCH; dated 26 May 1965;
Subject: OSA Monthly Report to
DD/SAT and Program B Quarterly
Review Report to the D/MRO

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Attached is the IDEALIST Operational Summary and
Status Report for the month of December 1965.

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Lt. Colonel USAF
Deputy for Field Activities, OSA

Attachment - 1
As stated above

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IDEALIST

OPERATIONAL SUMMARY AND STATUS

I. General Summary

A. There were no Agency U-2 overflight missions during the month of December.

B. On 7 December Article 348 experienced a sharp wing roll-off and as a result, all aircraft were restricted to flights not requiring use of the autopilot. Article 348 was delivered to Lockheed for investigation and analysis of the autopilot system. The aircraft was instrumented and test flown several times, but the malfunction could not be duplicated. Although exact cause of the malfunction could not be determined, corrective action was to tighten the specifications of the entire system and especially the precession rates of the gyro platform. An additional safety factor under consideration is installation of a fault monitor system designed to prevent rapid displacement of the aircraft and to provide warning to the pilot when an autopilot malfunction occurs. If tests of the fault monitor system prove satisfactory, all of the Detachment "H" aircraft will have the system installed by 15 January 1966, and installation of the packages in Detachment "G" aircraft to be accomplished as equipment becomes available.

C. [redacted] the Agency agreed to the resumption of the canned route system on 10 December. The initial package of fifteen canned routes [redacted]
[redacted] on 23 December.

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II. Product Improvement

A. Results of the new paint scheme for the Articles continued to be favorable. Tests were conducted in the field and reports submitted on adherence and durability

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qualities of the paint under field environments. The paint has good adherence properties, although some slight peeling was noted on exposed leading edge surfaces. Lockheed developed and released the procedures to be used by the field for touch-up and upkeep of these areas using a "3M" velvet coating application.

B. The dynamotor power supply used in the ARC-34 communications equipment aboard the Articles are being replaced with solid state power supply. The solid state power source will eliminate the sparking and carbon residuals associated with the dynamotor type equipment. Project depot is obtaining the solid state models on a high priority basis.

C. Additional test flights of the J75-13B engine were performed during this period with Article 349. Performance of the "B" engine continues to be most favorable. Test flights were made on 6, 9, and 14 December with full internal fuel loads. No wing buffeting was encountered on these tests during the climb schedule. Lockheed reports indicate the Article and engine performance as acceptable for normal operations. Lockheed is continuing exploration of the "B" engine operation at altitudes below 30,000 feet with compressor bleed valves open.

D. Lockheed was requested to expeditiously provide autopilot fault monitors for each of the Articles, to include installation kits and spare sets. This requirement resulted from the series of tests that were conducted for isolation of the recent autopilot problems. This fault analyzer monitors the various autopilot attitude, surface positions, and aircraft rate signal sources.

E. Lockheed performed a number of flight tests using a proposed Mach .685 climb schedule. Intent is to compare and evaluate this schedule against the standard prescribed climb schedule. Reports were received, however, further evaluations need to be performed before a final firm conclusion can be arrived at. The pilot making the initial tests expressed no preference between the two schedules.

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F. AT-400 equipment was due to be returned to Lockheed from the vendor for installation during the first week of January. Primarily, the problems in the AT-400 seemed to stem from the 490T coupler, which has subsequently been modified to correct the problem. Lockheed personnel indicate optimism over the future test results.

G. Tests were performed and consideration given to installing a voice activated tape recorder in the cockpit. Problems that have been encountered are in "setting" the sensitivity adjustments. If not sensitive enough, the recorder will not activate properly. However, a too sensitive adjustment permits even normal breathing to activate the equipment.

H. The Doppler system was installed this month. However, the vendor anticipated problems with the antenna coaxial cable, which is routed through a high vibration area, and the antenna installation, which requires movement of the System 9B antennas, movement of the aft-looking 9B antenna creates antenna pattern distortion. Lockheed is continuing efforts to establish a proper placement that will reduce or eliminate the distortion problems.

I. The Wilcox 914 IFF (ATC) Transponder testing was continued through this period. This unit appears to answer many of the IFF needs not available through present equipment. Decision was made to mount the transponder in the forward wheel well, where the time code generator is presently located. This generator will be moved to the nose area with a remote reset switch in the external power supply.

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